

Service Service Service

Service Manual

Input : 13,2 V/10 A $\overline{\text{---}}$
Output : 220 V/55 W \sim

Undervoltage protection : 11,5 V
Overvoltage protection : 14,5 V

GB Adjustment undervoltage

- Use a dual beam oscilloscope (2V/div.; 0.5 μ s/div.). Calibrate the two channels for the same 0V DC level. Connect probe A to pin 2 of IC 7001. Connect probe B to pin 3 of IC 7001. Connect ground to pin 7 of IC 7001. Connect the collector of transistor 7041 to ground. As a result the multi-vibrator is switched off. Connect a battery voltage of 11.0V \pm 0.1V.
- Turn potentiometer 3070 fully counterclockwise. Then turn it slowly clockwise until the voltages at pin 2 and 3 of IC 7001 are perfectly equal. If the critical point is exceeded (the voltage at pin 3 is higher than at pin 2), the adjustment procedure must be repeated as of point b.

F Ajustage sous-tension

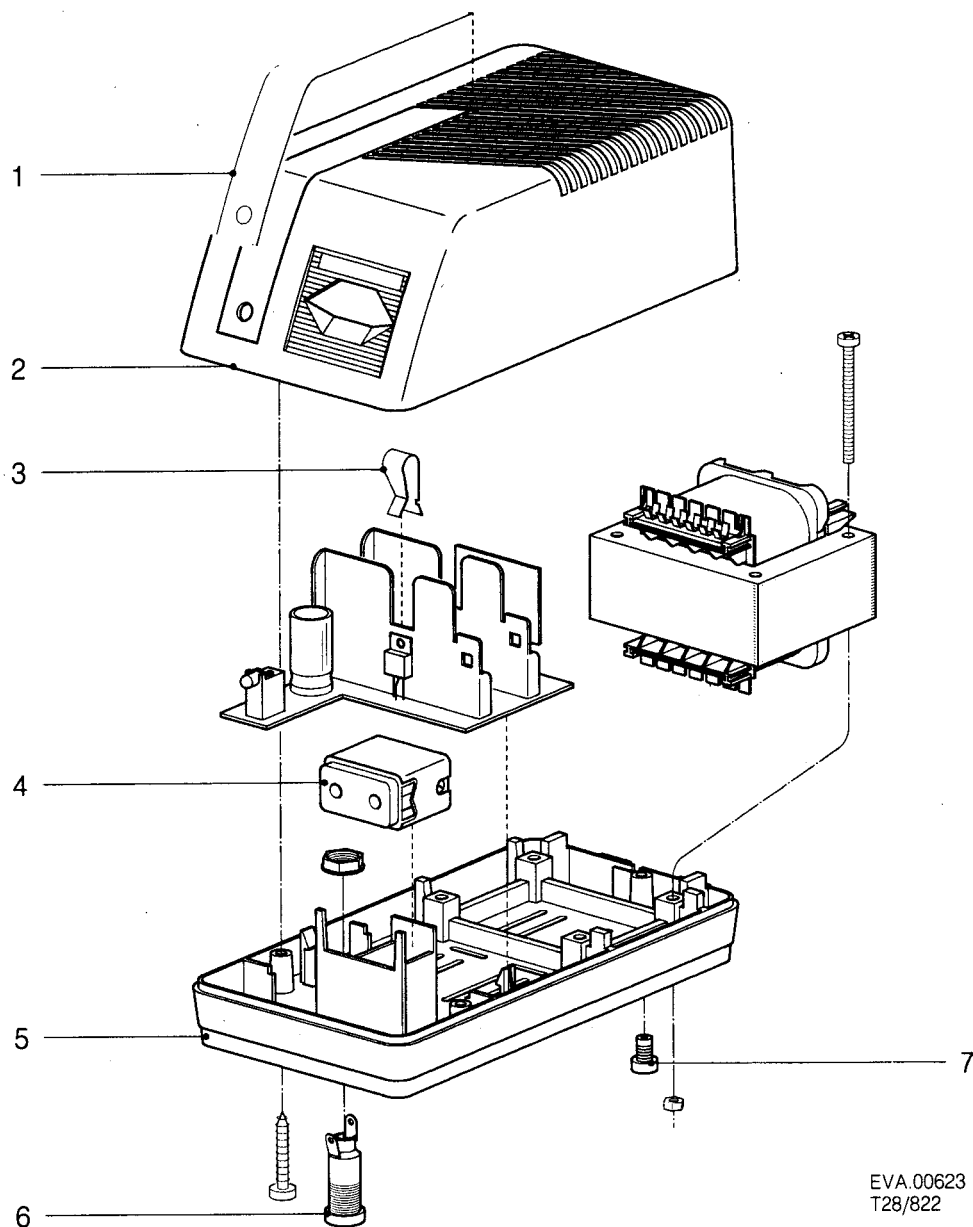
- Utiliser un oscilloscope double faisceau (2V/div, 0,5 μ sec/div). Calibrer les deux voies au niveau DC identique. Brancher la sonde A à la broche 2 de l'IC 7001. Brancher la sonde B à la broche 3 de l'IC 7001. Brancher la terre à la broche 7 de l'IC 7001. Connecter le collecteur du transistor 7041 à la masse. Ceci coupe le multivibrateur. Appliquer une tension de pile de 11,0V \pm 0,1V.
- Tourner le potentiomètre 3070 à fond dans le sens anti-horaire. Le retourner lentement dans le sens horaire jusqu'à ce que les tensions sur les broches 2 et 3 de l'IC 7001, soient exactement au même niveau. Au cas où le point critique a été dépassé (si la tension sur la broche 3 est supérieure à celle de la broche 2), la procédure d'ajustage doit être reprise à partir du point b.

NL Afregeling ondervoltage

- Gebruik een dubbelstraals oscilloscoop (2V/div, 0,5 μ s/div). Calibreer beide kanalen op hetzelfde 0V DC-level. Probe A aansluiten op pen 2 van IC 7001. Probe B aansluiten op pen 3 van IC 7001. Aarde aansluiten op pen 7 van IC 7001. Sluit de collector van transistor 7041 aan massa. Hierdoor wordt de multivibrator uitgeschakeld. Sluit een batterij spanning van 11,0V \pm 0,1V aan.
- Draai potentiometer 3070 geheel linksom. Regel deze nu langzaam rechtsom, totdat de spanningen op pen 2 en 3 van IC 7001 precies aan elkaar gelijk zijn. Wanneer het kritieke punt overschreden wordt (de spanning op pen 3 is hoger dan op pen 2), moet de afregelprocedure vanaf punt b herhaald worden.

D Einstellung der Unterspannung








- Doppelstrahloszilloskop (2V/Teilung, 0,5 μ s/Teilung) einsetzen. Beide Kanäle auf das gleiche 0-Volt-Gleichspannungsniveau kalibrieren. Sonde A an Anschluss 2 von IC 7001 anschliessen. Sonde B an Anschluss 3 von IC 7001 anschliessen. Masse an Anschluss 7 von IC 7001 anschliessen. Den Kollektor von Transistor 7041 an Masse legen. Dadurch wird der Multivibrator ausgeschaltet. Eine batteriespannung von 11,0V \pm 0,1V anlegen.
- Potentiometer 3070 ganz linksherum drehen. Dieses nun langsam rechtsherum regeln, bis die Spannungen an Anschluss 2 und 3 von IC 7001 einander genau gleich sind. Wenn der kritische Punkt überschritten wird (die Spannung an Anschluss 3 ist höher als an Anschluss 2), muss das Einstellverfahren von Punkt b an wiederholt werden.

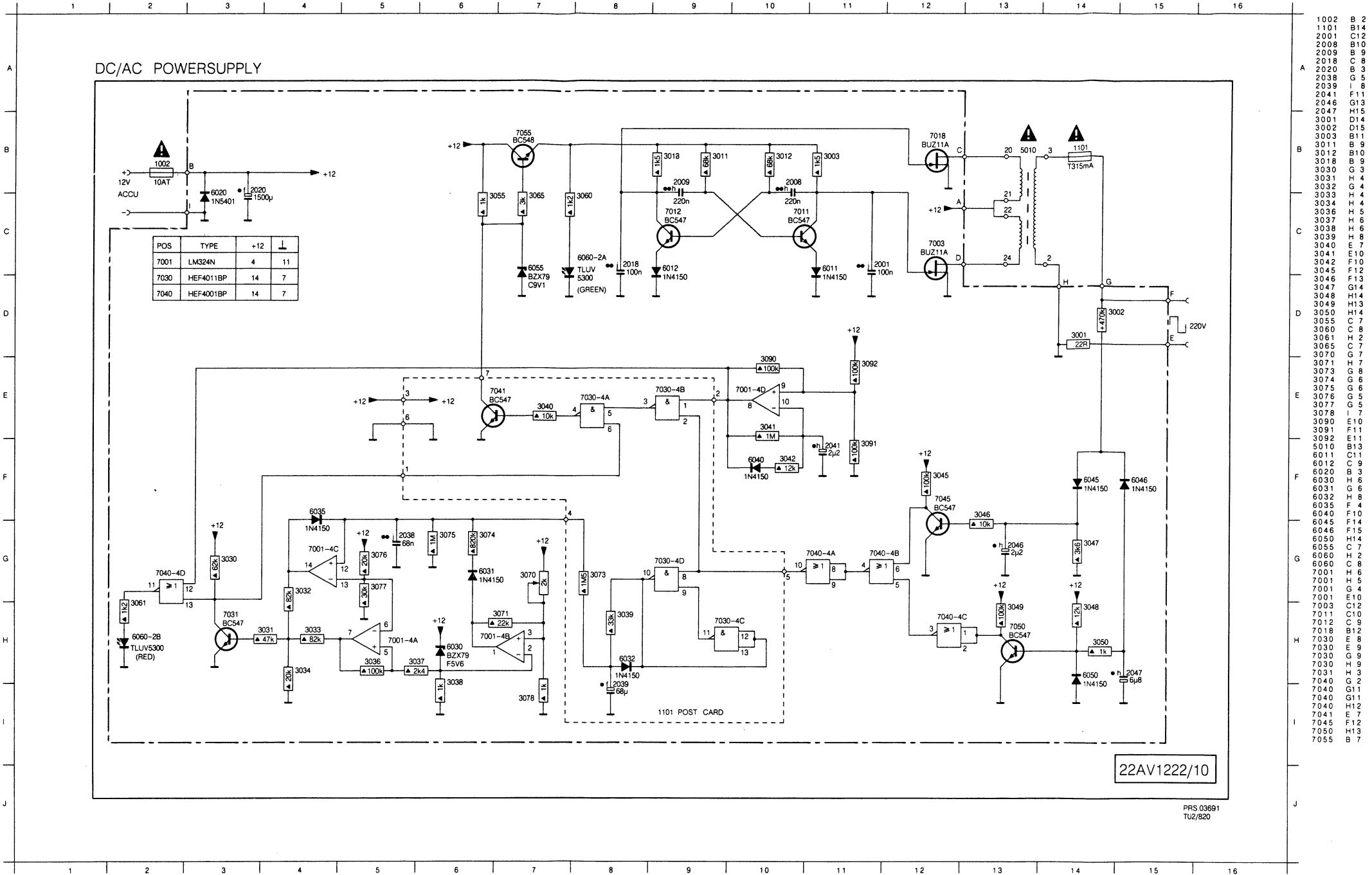
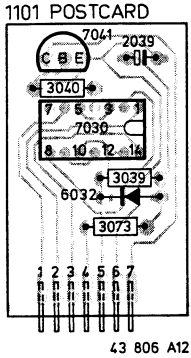
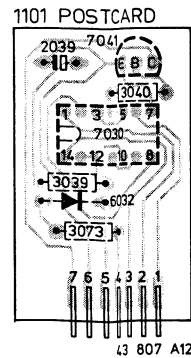


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







Mechanical Parts





1	4822 454 12175	Ornamental plate
2	4822 432 92238	Cover
3	4822 492 63524	Spring
4	4822 267 30973	Socket outlet
5	4822 432 92245	Console
6	5322 256 30224	Fuseholder
7	4822 462 40851	Foot

Various			
Holder for LED		4822 256 91299	
Battery Cable Assy		4822 321 22907	
			
1001	4822 253 30014	T315 mA	
1002	4822 253 30032	T10A	
			
3001	4822 113 41152	22 Ω 7 W	
3070	4822 100 11368	2 k Ω Potm. Lin.	
			
1N4150	4822 130 30841		
1N5401	5322 130 34939		
BZX79-C5V6	4822 130 34173		
			
TLUV5300	4822 209 72895		
			
BC 547	4822 130 44257		
BC 548	4822 130 40938		
BUZ 11 A	4822 130 61253		
			
HEF 4001 BP	4822 209 10246		
HEF 4011 BP	4822 209 10247		
LM 324 N	4822 209 80587		
			
5010	4822 146 30691	Transformer	



SYMBOLS USED IN CIRCUIT DIAGRAMS

SYMBOL	TYPE	VALUE	TOLERANCE	SERIES
	SFR16T	0.5	1E - 3M 5%	E24
	SFR25H	0.5	1E - 10M 5%	E24
	MRS25	0.6	1E - 1M 1%	E24
	MR30	0.5	1E - 1M 1% (2%)	E24
	VR37	0.5	220K - 33M 5%	E24
	PR37	1.6	1E - 1M 5%	E24
	VR68	1	100K - 68M 5%	E24
	MRS 16T	0.4	10R - 100K	E24E96

SYMBOL	TYPE	VOLTAGE DC	TOLERANCE
	POLYESTER FLATFOIL	SEE NOTE	10%
	PLATE CERAMIC	SEE NOTE	DEPENDING ON CAPACITY
	ELCO MINATURE SINGLE	SEE NOTE	-10-50%
	ELCO SINGLE ENDED	SEE NOTE	±20%

NOTE:

f = 25V	g = 40V	h = 63V	j = 100V	k = 125V	l = 150V	m = 180V	n = 200V	p = 250V	q = 300V	r = 350V	s = 400V	t = 450V	u = 500V	v = 550V	w = 600V	x = 650V	y = 700V	z = 750V	aa = 800V	ab = 850V	ac = 900V	ad = 950V	ae = 1000V	af = 1050V	ag = 1100V	ah = 1150V	ai = 1200V	aj = 1250V	ak = 1300V	al = 1350V	am = 1400V	an = 1450V	ao = 1500V	ap = 1550V	aq = 1600V	ar = 1650V	as = 1700V	at = 1750V	au = 1800V	av = 1850V	aw = 1900V	ax = 1950V	ay = 2000V	az = 2050V	ba = 2100V	bb = 2150V	bc = 2200V	bd = 2250V	be = 2300V	bf = 2350V	bg = 2400V	bh = 2450V	bi = 2500V	bj = 2550V	bk = 2600V	bl = 2650V	bm = 2700V	bn = 2750V	bo = 2800V	bp = 2850V	bq = 2900V	br = 2950V	bs = 3000V	bt = 3050V	bu = 3100V	bv = 3150V	bw = 3200V	bx = 3250V	by = 3300V	bz = 3350V	ca = 3400V	cb = 3450V	cc = 3500V	cd = 3550V	ce = 3600V	cf = 3650V	cg = 3700V	ch = 3750V	ci = 3800V	cj = 3850V	ck = 3900V	cl = 3950V	cm = 4000V	cn = 4050V	co = 4100V	cp = 4150V	cq = 4200V	cr = 4250V	cs = 4300V	ct = 4350V	cu = 4400V	cv = 4450V	cw = 4500V	cx = 4550V	cy = 4600V	cz = 4650V	da = 4700V	db = 4750V	dc = 4800V	dd = 4850V	de = 4900V	df = 4950V	dg = 5000V	dh = 5050V	di = 5100V	dj = 5150V	dk = 5200V	dl = 5250V	dm = 5300V	dn = 5350V	do = 5400V	dp = 5450V	dq = 5500V	dr = 5550V	ds = 5600V	dt = 5650V	du = 5700V	dv = 5750V	dw = 5800V	dx = 5850V	dy = 5900V	dz = 5950V	ea = 6000V	eb = 6050V	ec = 6100V	ed = 6150V	ee = 6200V	ef = 6250V	eg = 6300V	eh = 6350V	ei = 6400V	ej = 6450V	ek = 6500V	el = 6550V	em = 6600V	en = 6650V	eo = 6700V	ep = 6750V	eq = 6800V	er = 6850V	es = 6900V	et = 6950V	eu = 7000V	ev = 7050V	ew = 7100V	ex = 7150V	ey = 7200V	ez = 7250V	fa = 7300V	fb = 7350V	fc = 7400V	fd = 7450V	fe = 7500V	ff = 7550V	fg = 7600V	fh = 7650V	fi = 7700V	fj = 7750V	fk = 7800V	fl = 7850V	fm = 7900V	fn = 7950V	fo = 8000V	fp = 8050V	fq = 8100V	fr = 8150V	fs = 8200V	ft = 8250V	fu = 8300V	fv = 8350V	fw = 8400V	fx = 8450V	fy = 8500V	fz = 8550V	ga = 8600V	gb = 8650V	gc = 8700V	gd = 8750V	ge = 8800V	gf = 8850V	gg = 8900V	gh = 8950V	gi = 9000V	gj = 9050V	gk = 9100V	gl = 9150V	gm = 9200V	gn = 9250V	go = 9300V	gp = 9350V	gq = 9400V	gr = 9450V	gs = 9500V	gt = 9550V	gu = 9600V	gv = 9650V	gw = 9700V	gx = 9750V	gy = 9800V	gz = 9850V	ha = 9900V	hb = 9950V	hc = 10000V	hd = 10050V	he = 10100V	hf = 10150V	hg = 10200V	hh = 10250V	hi = 10300V	hj = 10350V	hk = 10400V	hl = 10450V	hm = 10500V	hn = 10550V	ho = 10600V	hp = 10650V	hq = 10700V	hr = 10750V	hs = 10800V	ht = 10850V	hu = 10900V	hv = 10950V	hw = 11000V	hx = 11050V	hy = 11100V	hz = 11150V	ia = 11200V	ib = 11250V	ic = 11300V	id = 11350V	ie = 11400V	if = 11450V	ig = 11500V	ih = 11550V	ii = 11600V	ij = 11650V	ik = 11700V	il = 11750V	im = 11800V	in = 11850V	io = 11900V	ip = 11950V	iq = 12000V	ir = 12050V	is = 12100V	it = 12150V	iu = 12200V	iv = 12250V	iw = 12300V	ix = 12350V	iy = 12400V	iz = 12450V	ja = 12500V	jb = 12550V	jc = 12600V	jd = 12650V	je = 12700V	jf = 12750V	jj = 12800V	jj = 12850V	jk = 12900V	jl = 12950V	jm = 13000V	jn = 13050V	jo = 13100V	jp = 13150V	jq = 13200V	jr = 13250V	js = 13300V	jt = 13350V	ju = 13400V	jv = 13450V	jw = 13500V	jx = 13550V	ky = 13600V	kz = 13650V	la = 13700V	lb = 13750V	lc = 13800V	ld = 13850V	le = 13900V	lf = 13950V	lg = 14000V	lh = 14050V	li = 14100V	lj = 14150V	lk = 14200V	ll = 14250V	lm = 14300V	ln = 14350V	lo = 14400V	lp = 14450V	lq = 14500V	lr = 14550V	ls = 14600V	lt = 14650V	lu = 14700V	lv = 14750V	lw = 14800V	lx = 14850V	ly = 14900V	lz = 14950V	ma = 15000V	mb = 15050V	mc = 15100V	md = 15150V	me = 15200V	mf = 15250V	mg = 15300V	mh = 15350V	mi = 15400V	mj = 15450V	mk = 15500V	ml = 15550V	mn = 15600V	mo = 15650V	mp = 15700V	mq = 15750V	mr = 15800V	ms = 15850V	mt = 15900V	mu = 15950V	mv = 16000V	mw = 16050V	mx = 16100V	my = 16150V	mz = 16200V	na = 16250V	nb = 16300V	nc = 16350V	nd = 16400V	ne = 16450V	nf = 16500V	ng = 16550V	nh = 16600V	ni = 16650V	nj = 16700V	nk = 16750V	nl = 16800V	nm = 16850V	no = 16900V	np = 16950V	nq = 17000V	nr = 17050V	ns = 17100V	nt = 17150V	nu = 17200V	nv = 17250V	nw = 17300V	nx = 17350V	ny = 17400V	nz = 17450V	oa = 17500V	ob = 17550V	oc = 17600V	od = 17650V	oe = 17700V	of = 17750V	og = 17800V	oh = 17850V	oi = 17900V	oj = 17950V	ok = 18000V	ol = 18050V	om = 18100V	on = 18150V	oo = 18200V	op = 18250V	oq = 18300V	or = 18350V	os = 18400V	ot = 18450V	ou = 18500V	ov = 18550V	ow = 18600V	ox = 18650V	oy = 18700V	oz = 18750V	pa = 18800V	pb = 18850V	pc = 18900V	pd = 18950V	pe = 19000V	pf = 19050V	pg = 19100V	ph = 19150V	pi = 19200V	pj = 19250V	pk = 19300V	pl = 19350V	pm = 19400V	pn = 19450V	po = 19500V	pp = 19550V	pq = 19600V	pr = 19650V	ps = 19700V	pt = 19750V	pu = 19800V	pv = 19850V	pw = 19900V	px = 19950V	py = 20000V	pz = 20050V	qa = 20100V	qb = 20150V	qc = 20200V	qd = 20250V	qe = 20300V	qf = 20350V	qg = 20400V	qh = 20450V	qi = 20500V	qj = 20550V	qk = 20600V	ql = 20650V	qm = 20700V	qn = 20750V	qo = 20800V	qp = 20850V	qq = 20900V	qr = 20950V	qs = 21000V	qt = 21050V	qu = 21100V	qv = 21150V	qw = 21200V	qx = 21250V	qy = 21300V	qz = 21350V	ra = 21400V	rb = 21450V	rc = 21500V	rd = 21550V	re = 21600V	rf = 21650V	rg = 21700V	rh = 21750V	ri = 21800V	rj = 21850V	rk = 21900V	rl = 21950V	rm = 22000V	rn = 22050V	ro = 22100V	rp = 22150V	rq = 22200V	rr = 22250V	rs = 22300V	rt = 22350V	ru = 22400V	rv = 22450V	rw = 22500V	rx = 22550V	ry = 22600V	rz = 22650V	sa = 22700V	sb = 22750V	sc = 22800V	sd = 22850V	se = 22900V	sf = 22950V	sg = 23000V	sh = 23050V	si = 23100V	sj = 23150V	sk = 23200V	sl = 23250V	sm = 23300V	sn = 23350V	so = 23400V	sp = 23450V	sq = 23500V	sr = 23550V	ss = 23600V	st = 23650V	su = 23700V	sv = 23750V	sw = 23800V	sx = 23850V	sy = 23900V	sz = 23950V	ta = 24000V	tb = 24050V	tc = 24100V	td = 24150V	te = 24200V	tf = 24250V	tg = 24300V	th = 24350V	ti = 24400V	tj = 24450V	tk = 24500V	tl = 24550V	tm = 24600V	tn = 24650V	to = 24700V	tp = 24750V	tq = 24800V	tr = 24850V	ts = 24900V	tt = 24950V	tu = 25000V	tv = 25050V	tw = 25100V	tx = 25150V	ty = 25200V	tz = 25250V	ua = 25300V	ub = 25350V	uc = 25400V	ud = 25450V	ue = 25500V	uf = 25550V	ug = 25600V	uh = 25650V	ui = 25700V	uj = 25750V	uk = 25800V	ul = 25850V	um = 25900V	un = 25950V	uo = 26000V	up = 26050V	uq = 26100V	ur = 26150V	us = 26200V	ut = 26250V	uu = 26300V	uv = 26350V	uw = 26400V	ux = 26450V	uy = 26500V	uz = 26550V	va = 26600V	vb = 26650V	vc = 26700V	vd = 26750V	ve = 26800V	vf = 26850V	vg = 26900V	vh = 26950V	vi = 27000V	vj = 27050V	vk = 27100V	vl = 27150V	vm = 27200V	vn = 27250V	vo = 27300V	vp = 27350V	vq = 27400V	vr = 27450V	vs = 27500V	vt = 27550V	vu = 27600V	vv = 27650V	vw = 27700V	vx = 27750V	vy = 27800V	vz = 27850V	wa = 27900V	wb = 27950V	wc = 28000V	wd = 28050V	we = 28100V	wf = 28150V	wg = 28200V	wh = 28250V	wi = 28300V	wj = 28350V	wk = 28400V	wl = 28450V
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